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The streams in South Carolina were nearly bank full at the beginning of the month. Tides were exceedingly short, about half ebb only. This, coupled with the high water, resulting from the prolonged period of northeasterly winds, produced abnormal tides of 1.5 to 2.5 feet along the portions of fresh water streams within the tidal sections of the coast. The tides seriously retarded the outflow of the freshet waters on the lower Santee River and in Winyah Bay, endangering the rice plantations of those localities. The conditions prevailing during the latter half of August continued throughout this month, and in consequence the rice planters could not drain their lands for harvesting. Much rice was lost thereby.

Heavy rainfall over the upper catchment basins during the 16th and 17th caused a rapid run-off, and raised the Wateree at Camden, S. C., 21.9 feet during the 18th and 19th; the danger line, 24 feet, was reached during the afternoon of the 18th. The stream began to recede rapidly about 10 a. m. of the 20th, at which time it fell below the danger point.

The Pedee, at Cheraw, S. C., rose 24 feet during the 18th and 19th to a maximum stage of 30.3 feet, passing the danger line, 27.0 feet, at about 5 a. m. of the 19th. There was a slow decline during the night of the 19th. It began to recede rapidly during the night of the 20th, passing the danger point, on its downward course at noon of the 20th.

There was a rise of 17.7 feet in the Congaree, at Columbia, S. C., during the 18th and 19th. It reached the danger point, 15.0 feet, at 10 a. m. of the 18th, and had fallen below the danger line by 1 a. m. of the 21st.

The lower Santee, at St. Stephens, S. C., was 0.1 to 0.5 of a foot above the danger line (12 feet) on the 6th, 7th, 26th, and 27th. Its fluctuations were exceedingly small during the entire month, owing to the high tides noted above.

The lower Pedee, at Smiths Mills, S. C., remained at high stages throughout the month. It rose to, and slightly above, the danger point on the 27th and 28th. Its seaward course during the last half of the month was very much retarded by the frequent high tides, which banked up the earlier freshet waters within Winyah Bay, thus causing a slow decline.

The rivers of eastern and southern Georgia were also generally above the danger lines, but, as far as has been ascertained, no considerable damage was done except along the Ocmulgee and lower Flint rivers. Timely warning was given of the approach of the flood stages in the former river.

The highest and lowest water, mean stage, and monthly range at 134 river stations are given in Table VII. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport on the Red.—*H. C. Frankenfield, Forecast Official.*

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following summaries relating to the general weather and crop conditions are furnished by the directors of the respective sections of the Climate and Crop Service of the Weather Bureau.

[Temperature is expressed in degrees Fahrenheit and precipitation in inches and hundredths.]

Alabama.—The mean temperature was 72.1°, or 2.7° below normal; the highest was 95°, at Bermuda, Tuskegee, and Wetumpka on the 9th and at Livingston on the 15th, and the lowest, 39°, at Riverton on the 19th. The average precipitation was 4.19, or 1.48 above normal; the greatest monthly amount, 11.45, occurred at Eufaula, and the least, 1.10, at Livingston.

Rather cool and unfavorable, retarding opening of cotton, with light frost in northern counties from 19th to 22d; excessive and damaging rains in southeast counties.—*F. P. Chaffee.*

Arizona.—The mean temperature was 75.4°, or 0.5° below normal; the highest was 114°, at Mohawk Summit on the 2d, and the lowest, 24°, at Flagstaff on the 25th. The average precipitation was 0.48, or 0.55 below normal; the greatest monthly amount, 3.90, occurred at Duncan, while none fell at a great number of stations.

Conditions were generally favorable for plant development during the first half, but a diminished water supply for irrigation in the lower agricultural valleys and cold weather in the northern tier of counties retarded further growth during the latter part of the month. Farming operations were backward, as on account of the dryness of the soil, but little fall plowing and seeding could be done.—*Wm. G. Burns.*

Arkansas.—The mean temperature was 72.6°, or 1.2° below normal; the highest was 101°, at Pine Bluff on the 9th and 10th and at Rison on the 8th and 10th, and the lowest, 32°, at Pond on the 18th. The average precipitation was 3.08, or 0.22 below normal; the greatest monthly amount, 8.87, occurred at Marvell, and the least, 0.17, at Hardy.

Hot days and comparatively cool nights, with very unevenly distributed rainfall characterized the month. Light frost occurred in various localities on the 18th and 19th, but the damage was inappreciable. Cotton was opening fast, with picking in rapid progress; indications point to a very light yield. Corn was all matured, and about all cut and housed; the yield is very unsatisfactory. Apples were generally a failure. Irish potatoes, peas, and turnips were not doing well.—*Edward B. Richards.*

California.—The mean temperature was 66.0°, or 2.3° below normal; the highest was 114°, at Volcano on the 17th, and the lowest, 15°, at Bodie on the 24th. The average precipitation was 0.94, or 0.05 above normal; the greatest monthly amount, 6.28, occurred at Crescent City, while none fell at 28 stations.

Conditions were generally favorable for crops during the month, although the temperature was below normal most of the time. Rain was general throughout the State on the 23d and 24th, but as warnings had been given there was very little injury to raisins and drying fruits; grapes on the vines, grain in sacks, and unbaled hay were slightly damaged.—*Alexander G. McAdie.*

Colorado.—The mean temperature was 58.8°, or about normal; the highest was 96°, at Lamar on the 9th and at Las Animas on the 26th, and the lowest, 9°, at Wagon Wheel Gap on the 25th. The average precipitation was 0.65, or 0.30 below normal; the greatest monthly amount, 2.86, occurred at Wallet, while none fell at Montrose and only a trace at Glenwood Springs, Grand Junction, Tennessee Pass, and Las Animas.

Weather favorable to belated crops, harvesting, and thrashing, but soil too dry for plowing, seeding, and the germination of winter grain. The showers were generally confined to the first decade and were very beneficial to ranges, potatoes, and the third growth of alfalfa, and the last-named crop was heavier than the conditions during August gave reason to expect. A good acreage of corn had been cut for fodder but the remainder matured nicely and a fair crop was gathered. Potatoes suffered no material damage by frosts and a heavy yield is indicated. At the close of the month ranges as a whole were in satisfactory condition. A rather destructive hailstorm occurred in Weld County on the 6th; wheat in shock, potatoes, sugar beets, and late alfalfa were injured. High winds were general on the 24th and caused considerable damage to hay in stack and windrow, besides blowing off many late apples and breaking trees in localities.—*F. H. Brandenburg.*

Cuba.—The mean temperature was 80.3°; the highest was 100°, at Nuevitas on the 1st, and the lowest, 60°, at Santa Clara on several days. The average precipitation was 10.92; the greatest monthly amount, 21.15 occurred at Plantation Providencia (Guines), and the least, 3.20, at Nuevitas.

Very uniform and seasonable temperature. Rains were frequent and very heavy in most sections, on account of which all field work was very much retarded, lowland crops damaged in many localities, and numerous tobacco seed beds ruined. Sugar cane on high ground, however, grew luxuriantly and at the close of the month its condition was highly satisfactory. Minor products are very scarce in some districts, but over the greater portion of the island they are fairly good and abundant.—*W. B. Stockman.*

Florida.—The mean temperature was 79.1°, or 0.2° above normal; the highest was 98°, at Eustis, Fort Meade, and Ocala on the 13th and at McAlpin on the 14th, and the lowest, 54°, at Wausau on the 20th and at Tallahassee on the 27th. The average precipitation was 8.38, or 1.04 above normal; the greatest monthly amount, 17.55, occurred at New Smyrna, and the least, 3.37, at Lake Butler.

During the first week rainfall was excessive over a large portion of the State, interfering somewhat with the harvesting of corn. Cotton made no improvement, and there was considerable complaint of rust and shedding. Precipitation was less damaging during the second week, and there were some sections where showers would have benefited vegetables. During the third week rain retarded cotton picking, but fair progress was made with fall plowing. The closing week was decidedly damaging in northern and central districts by reason of heavy rains.—*A. J. Mitchell.*

Georgia.—The mean temperature was 73.1°, or 2.0° below normal; the highest was 101°, at Fleming on the 14th, and the lowest, 41°, at

Diamond on the 19th. The average precipitation was 5.19, or 2.29 above normal; the greatest monthly amount, 13.28, occurred at Americus, and the least, 1.25, at Statesboro.

One of the coolest Septembers in the past ten years, and the rainiest within that period. Cool weather prevailed from the 19th to the 23d, with light frosts in a few of the northern counties. Rainfall excessive in many counties, particularly on the 17th and 18th, when amounts of from 6 to over 8 inches fell in central sections. Cotton picking was active during the earlier and latter portions of the month, but was virtually suspended during the second decade. The crop was regarded as below the average, and the top crop was very poor. Minor crops were generally satisfactory.—*J. B. Marbury.*

Idaho.—The mean temperature was 54.0°, or 2.2° below normal; the highest was 97°, at Fayette on the 1st, and the lowest, 11°, at Chesterfield on the 14th. The average precipitation was 1.20, or 0.22 above normal; the greatest monthly amount, 3.15, occurred at Murray, and the least, 0.09, at Downey.

On the morning of the 22d there was a heavy snowstorm in the Saw Tooth, Cour d'Alene, and Rocky Mountain ranges. On the summits of the high mountains the snow fell to the depth of 1 foot, and there was some snow on the hills down to the 3,000-foot level. The first decade was remarkable for frequent frosts, but no material damage was done to crops.—*S. M. Blandford.*

Illinois.—The mean temperature was 66.6°, or 0.4° below normal; the highest was 100°, at Greenville on the 9th, and the lowest, 28°, at Kishwaukee and Shobonier on the 19th. The average precipitation was 1.94, or 1.23 below normal; the greatest monthly amount, 5.41, occurred at Wellington, and the least, 0.40, at Danville and Effingham.

The first half of the month was warm and favorable for ripening corn. This was followed by about a week of cool weather, during which light to killing frosts occurred throughout the State, causing considerable damage to corn in some localities. Good rains from the 9th to the middle of the month placed the soil in good condition for seeding, and a great deal of this work was done.—*M. E. Blystone.*

Indiana.—The mean temperature was 66.8°, or 0.5° below normal; the highest was 98°, at Mount Vernon on the 8th, and the lowest, 29°, at Northfield and Winamac on the 19th. The average precipitation was 1.54 or 1.13 below normal; the greatest monthly amount, 3.19, occurred at Seymour, and the least, trace, at Veedsburg.

Showery conditions, with fairly good amounts of rainfall, prevailed in all sections from the 9th to the 16th, and over the central and southern sections on the 28th and 29th; the remainder of the month was practically rainless. Temperatures slightly above the seasonal average were recorded up to the 16th; during the period from the 17th to the 21st, inclusive, light to heavy frosts were general throughout the State, and during the last decade of the month the daily mean temperature averaged about 4° above normal. The bulk of the corn crop was advanced beyond the stage where it could be injured by frost before the frosts came, and most of it was in shock by the last of the month. The frosts cut short the tomato and cucumber crops. Fall plowing was well advanced at the end of the month, but wheat sowing was retarded by dry ground and the fear of insects should warm weather continue.—*W. T. Blythe.*

Iowa.—The mean temperature was 63.3°, or 1.0° below normal; the highest was 102°, at Sigourney on the 7th, and the lowest, 26°, at Atlantic and Logan on the 18th. The average precipitation was 4.77, or 1.76 above normal; the greatest monthly amount, 13.62, occurred at Fonda, and the least, 1.71, at Amana.

The month was favorable as to temperature and sunshine for bringing all crops to full maturity. Light to heavy frosts on 17th and 20th cut some tender plants in exposed localities, and in the Missouri Valley counties killed the blades in some fields of belated corn, but the damage was very light. Good progress has been made in plowing and fall seeding, and germination has been satisfactory. Pastures and potatoes improved by copious rains; winter apple crop in commercial orchards in southwest district better than anticipated.—*John R. Sage.*

Kansas.—The mean temperature was 69.1°, or about normal; the highest was 100°, at Frankfort on the 5th and Independence on the 7th, and the lowest, 29°, at Scott on the 19th and at Eureka Ranch and Hoxie on the 20th. The average precipitation was 3.09, or 0.28 above normal; the greatest monthly amount, 9.74, occurred at Ness City, and the least, 0.22, at Englewood.

The precipitation was above normal in the western half of the State, except in the extreme southern counties, and below in the eastern half, except a few of the central counties. Wheat seeding progressed rapidly, being finished in many counties. Early sown wheat and rye are up in all parts of the State. Corn cutting is nearly finished, and a fine crop of fodder is in the shock. The fourth crop of alfalfa is generally in the stack. Apple and peach crops are large; quality good. Pastures good. Stock water plentiful.—*T. B. Jennings.*

Kentucky.—The mean temperature was 68.1°, or 2.4° below normal; the highest was 98°, at Greensburg on the 4th, and the lowest, 33°, at Fords Ferry on the 19th. The average precipitation was 3.57, or 0.76 above normal; the greatest monthly amount, 6.49, occurred at Leitchfield, and the least, 1.06, at Scott.

The month was very favorable for agricultural interests. The first half was warm and generally dry, and crops matured rapidly. General

rains fell from the 11th to the 16th and on the 17th and 21st. Frosts occurred on the 18th and 19th, but no damage resulted. Moderate temperatures prevailed during the remainder of the month.—*H. B. Hersey.*

Louisiana.—The mean temperature was 75.9°, or 0.7° below normal; the highest was 99°, at Minden and White Sulphur Springs on the 1st, and the lowest, 41°, at Mansfield on the 19th. The average precipitation was 3.91, or 0.25 above normal; the greatest monthly amount, 11.09, occurred at Alexandria, and the least, 0.41, at Prevost.

Showery weather during the first and second decades of the month proved injurious to cotton in nearly all localities. In some instances open cotton was beaten out onto the ground and there was much rotting and sprouting in the bolls. Dry weather during the last ten days of the month proved more auspicious, cotton opened rapidly, and picking was rushed. The yield is considerably below the average. The weather was all that could be desired for sugar cane, the cold weather in the third decade being just such as was needed to develop the sucrose content. Cane was very promising at the close of the month, and in some instances was ripening. The rice harvest was delayed by the wet weather prior to the 17th, but was about completed by the last of the month; the yield is, as a rule, very satisfactory. The corn crop was housed as rapidly as practicable.—*I. M. Oline.*

Maryland and Delaware.—The mean temperature was 66.4°, or 1.4° below normal; the highest was 95°, at Annapolis, Md., on the 15th, and the lowest, 29°, at Sunnyside, Md., on the 21st and at Deer Park, Md., on the 22d. The average precipitation was 3.00, or 0.28 below normal; the greatest monthly amount, 6.46, occurred at Bachmans Valley, Md., and the least, 1.33 at Distributing Reservoir, D. C.

A storm on the 15th was severe over parts of Frederick and Carroll counties, unroofing a number of houses, prostrating telephone lines, and washing grain fields, but this was the only unfavorable weather feature of the month. Dry and clear weather prevailed generally on the 4th to 9th, 21st to 27th, and 31st, with light to killing frosts during the middle period over the northern counties. The rainfall was sufficient and fairly well distributed. The general weather conditions were quite favorable for the corn harvest and other fall farm work. A good corn crop is assured, although much late corn was still green at the close of the month. Tomatoes had improved, and most garden vegetables yielded well, but potatoes continued short. Some late hay was made, tobacco was nearly all housed, and the peach season closed. Progress in fall seeding was irregular. Pastures were short at times, but revived at the close of the month.—*Oliver L. Fussig.*

Michigan.—The mean temperature was 60.5°, or about normal; the highest was 95°, at Alma on the 6th and at Jackson on the 7th, and the lowest, 20°, at Humboldt on the 18th. The average precipitation was 2.13, or 0.74 below normal; the greatest monthly amount, 5.90, occurred at Mancelona, and the least, 0.23, at Bay City.

Generally the weather conditions during September were very favorable for the maturing of late crops, but not so favorable for field work. The wet and cool weather extending throughout most of the second decade of the month delayed the maturing of sugar beets and late potatoes, and the harvesting of late beans and other field work, but the much drier and warmer weather of the last decade was very beneficial. At the close of the month corn, late beans, and buckwheat had been mostly secured in good condition; the corn crop was an exceptionally good one. Late potatoes had improved considerably and indicated a fair yield, while sugar beets were very promising. Fall plowing was nearly completed and wheat and rye seeding well advanced in the northern and central counties; in the southern counties very little seeding had been done, as in that section this work is usually delayed as late as possible to avoid the ravages of the hessian fly.—*C. F. Schneider.*

Minnesota.—The mean temperature was 57.3°, or 2.0° below normal; the highest was 95°, at Zumbrota on the 5th, and the lowest, 20°, at Pokegama Falls on the 19th. The average precipitation was 4.34, or 1.50 above normal; the greatest monthly amount, 9.76, occurred at St. Charles, and the least, 0.51, at Sandy Lake Dam.

There were rains in the northern part of the State on the 5th, from the 13th to the 17th, and on the 24th and 25th; and in middle and southern parts from the 6th to the 16th, and from the 24th to the end of the month. The temperature was high early in the month, with 90° reported on the 3d and 4th, and in southern portions on the 5th. The temperature was low on the 18th, 19th, and 20th, with killing frosts in the northern half, but with very little injury in the southern half up to the end of the month. Thrashing went on well in the north until the 13th, and for short periods after the 20th. In southern portions there was very little thrashing after the 7th because of the damp condition of the stacks. In the extreme north there were still small areas of uncut oats, barley, and buckwheat early in the month, and flax was not all cut at the end of the month. Corn generally escaped danger by frost, and all that was to be cut was in shock in good time. Potato digging was general late in the month, with a good crop reported in northern counties, but a very poor one in the south. Plowing has been going on since the rains moistened the soil, which was in splendid condition at the close of the month.—*T. S. Outram.*

Mississippi.—The mean temperature was 73.5°, or 2.1° below normal; the highest was 102°, at Windham on the 2d, and the lowest, 36°, at Aberdeen on the 19d. The average precipitation was 3.68, or 0.80 above

normal; the greatest monthly amount, 9.73, occurred at Austin, and the least, 1.19, at Hazelhurst.

The first eleven days of the month were favorable for all farming operations. Cotton opened rapidly and picking became general. From the 12th to the 17th, inclusive, cloudy and rainy weather prevailed over the entire State and was very damaging to cotton, causing it to rust, rot, and sprout in the bolls. The clear and much cooler weather which prevailed from the 18th to the 23d checked the rust on cotton, but retarded opening. The last week was fair and warm and picking was resumed, with indications of a much lighter yield than was anticipated at the opening of the month. Fodder pulling was generally completed during the first decade and haying was in full progress at the close of the month. On the whole, minor crops did well throughout the month.—*W. S. Belden.*

Missouri.—The mean temperature was 68.9°, or about normal; the highest was 103°, at Cook Station on the 8th, and the lowest, 27°, at Ironton and Potosi on the 19th. The average precipitation was 2.27, or 1.24 below normal; the greatest monthly amount, 7.31, occurred at Appleton City, and the least, 0.11, at Cook Station.

During the first week of September corn dried rapidly and cutting became general, the bulk of the crop being put in shock by the 15th. Frost on the 18th damaged the fodder on some late corn but did not injure the grain. Good rains in the northern and western counties during the second week put the ground in excellent condition for fall seeding, which progressed rapidly, but in some of the eastern and southern counties the ground continued so dry that but little wheat could be sown. In portions of the northern and western sections pastures improved considerably, but in many of the eastern counties they continued bare throughout the month. The rains were not heavy enough to materially increase the supply of stock water, except in a few localities.—*A. E. Hackett.*

Montana.—The mean temperature was 48.1°, or 4.1° below normal; the highest was 103°, at Glendive on the 2d, and the lowest, 15°, at Yale on the 19th. The average precipitation was 2.18, or 0.96 above normal; the greatest monthly amount, 5.61, occurred at St. Peters, and the least, 0.63, at Manhattan.

Unusually heavy rains occurred throughout the State on the 2d, 3d, and 4th, followed on the 6th by heavy snowstorms in the central portion along the Rocky Mountains. The greatest depth of snowfall in any twenty-four consecutive hours was 10 inches, at St. Peters. Snowstorms also occurred on the 24th at many stations in the central portion.—*E. J. Glass.*

Nebraska.—The mean temperature was 62.4°, or 1.2° below normal; the highest was 98°, at Nemaha on the 5th and the lowest, 20°, at Lynch on the 18th. The average precipitation was 4.55, or 2.61 above normal; the greatest monthly amount, 10.97, occurred at Hartington, and the least, 0.25, at Gordon.

The excessive rainfall thoroughly moistened the soil and was very favorable for seeding and for the germination and growth of winter wheat and rye. The acreage sown to winter wheat is unusually large and the present prospects are that the crop will obtain an exceptionally fine start this fall.—*G. A. Loveland.*

Nevada.—The mean temperature was 56.1°, or 3.3° below normal; the highest was 95°, at Tecoma on the 1st and 2d and at Wadsworth on the 18th, and the lowest, 20°, at Hamilton on the 23d. The average precipitation was 0.39, or 0.04 below normal; the greatest monthly amount, 1.38, occurred at Lewers Ranch, while none fell at several stations.

The weather throughout the month was very favorable for harvesting hay and grain, for digging potatoes, and for fall plowing. During early part of the month frost damaged tomatoes, cucumbers, potatoes, corn, etc., in various parts of the State.—*J. H. Smith.*

New England.—The mean temperature was 61.6°, or 1.3° above normal; the highest was 94°, at North Bridgeport, Me., on the 5th, and the lowest, 20°, at Flagstaff, Me., on the 26th. The average precipitation was 3.31, or 0.97 below normal; the greatest monthly amount, 6.60, occurred at Southington, Conn., and the least, 0.94, at Kineo, Me.

The weather of the month was very pleasant, and excepting parts of Connecticut which were visited by severe local storms, no damage resulted from the several elements. Crops were harvested in good condition and excellent progress was made in fall plowing and seeding. The mean temperature was in excess of the average but was evenly distributed through the month.—*J. W. Smith.*

New Jersey.—The mean temperature was 66.8°, or 0.5° above normal; the highest was 94°, at Indian Mills on the 15th, and the lowest, 29°, at Layton and Charlotteburg on the 26th. The average precipitation was 3.38, or 0.30 below normal; the greatest monthly amount, 6.82, occurred at Woodbine, and the least, 1.63, at Newark.

The weather conditions that prevailed during the month were generally favorable for the maturing and harvesting of all late crops. The first light frost of the season occurred on the morning of the 22d, and the first heavy on the morning of the 26th. At the close of the month the great bulk of the cranberry crop had been picked without injury from frost.—*E. W. McGinn.*

New Mexico.—The mean temperature was 65.2°, or about normal; the highest was 100°, at San Marcial on the 1st, Mesilla Park on the 2d, and Carlsbad on the 24th, and the lowest, 26°, at Aztec and Blue-

water on the 25th. The average precipitation was 1.35, or 0.17 below normal; the greatest monthly amount, 3.90, occurred at Lower Penasco, while none fell at Lordsburg, and only a trace at Engle and Olio.

A not unfavorable month is a very favorable season.—*R. M. Hardinge.*
New York.—The mean temperature was 61.4°, or 0.3° above normal; the highest was 93°, at Schenectady on the 6th, and the lowest, 19°, at Axton on the 26th. The average precipitation was 3.46, or about normal; the greatest monthly amount, 6.31, occurred at Volusia, and the least, 1.38, at Lyons.

The month of September was generally favorable both for the growth of crops and for the harvest, which was accomplished without material damage by frosts. The first frost occurred on the 9th, and general frosts on the 20th. Destructive frosts were more or less general on the 26th, but owing to the advanced stage of the harvest but little damage resulted. The ground continued in excellent condition, and seeding wheat and rye was mostly completed by the close of the month.—*R. G. Allen.*

North Carolina.—The mean temperature was 69.9°, or 0.5° below normal; the highest was 98°, at Southern Pines on the 13th, and the lowest, 31°, at Linville on the 20th. The average precipitation was 5.63, or 1.28 above normal; the greatest monthly amount, 9.59, occurred at Southern Pines, and the least, 2.29, at Oak Ridge.

The first half of September was dry and warm, and very favorable for farm work, especially for picking cotton and making hay; toward the end of the period drought began to prevail, which, however, was broken by the rainfall from the 16th to 19th. Unfortunately the amount of rain received was beyond the requirement of crops, and some injury resulted to open cotton and hay not yet housed. The latter part of the month was cool and wet, and no further development of vegetation took place. The precipitation from April to September was above the normal every month, and the accumulated excess amounts to no less than 15 inches for the State, surpassing all previous records for a similar period.—*C. F. von Herrmann.*

North Dakota.—The mean temperature was 53.6°, or 3.8° below normal; the highest was 100°, at Medora on the 2d, and the lowest, 12°, at Dunseith on the 18th. The average precipitation was 2.01, or 1.04 above normal; the greatest monthly amount, 5.66, occurred at Forman, and the least, 0.53, at Melville.

The weather was generally favorable for maturing late crops and for harvesting and thrashing. A severe freeze and killing frost on the 18th, the first of the season, destroyed all vegetation that had not ripened, including a little late corn and flax. While thrashing was somewhat interrupted by rains during the month, no serious delay occurred.—*B. H. Bronson.*

Ohio.—The mean temperature was 64.8°, or 0.8° below normal; the highest was 98°, at Jacksonboro on the 7th, and the lowest, 29°, Celina on the 19th. The average precipitation was 2.86, or 0.22 above normal; the greatest monthly amount, 7.38, occurred at Cleveland, and the least, 0.53, at New Paris.

September has been slightly cooler and wetter than normal, except that the drought continues in southwest counties. Frosts occurred on the 18th to 21st, doing some damage in the northwest. In the north late corn is now ripe and early corn is nearly all secured. Late potatoes continue growing in the northeast, in the other sections the crop is light. Tobacco is practically all housed in good condition. Only an occasionally correspondent states that a fair crop of winter apples is in prospect. Grapes have done fairly well. Much wheat has been sown, but many correspondents have delayed seeding to avoid damage by the fly.—*J. Warren Smith.*

Oklahoma and Indian Territories.—The mean temperature was 73.7°, or 0.4° below normal; the highest was 107°, at Ardmore, Ind. T., on the 12th, and the lowest, 32°, at Jefferson, Okla., on the 19th and at Jenkins, Okla., on the 20th. The average precipitation was 1.56, or 0.95 below normal; the greatest monthly amount, 4.24, occurred at Newkirk, Okla., and the least, trace, at Healdton, Ind. T.

The first part of the month was cool and showery, the latter part fair, warmer, and droughty. Light frost occurred on the 18th and 20th, with slight damage to vegetation. Cotton picking was about two-thirds completed with an average yield of about one-third bale per acre. Corn cutting was completed and husking was in progress. Kaffir corn, cane, and broom corn were being gathered with moderate yields. Pastures suffered and stock was in variable condition. Fall wheat seeding and plowing was about two-thirds completed, with early sown up to a good stand.—*Charles M. Strong.*

Oregon.—The mean temperature was 57.1°, or 2.2° below normal; the highest was 96°, at Junction City on the 16th and Buckhorn Farm on the 17th, and the lowest, 28°, at Silver Lake on the 9th. The average precipitation was 3.27, or 1.47 above normal; the greatest monthly amount, 8.73, occurred at Glenora, and the least, 0.34, at Vale.

The rains during the last decade were well distributed; they greatly improved the ranges and pastures and put the soil in excellent condition for fall plowing and seeding. Prunes were damaged considerably by wet weather, which also delayed the work of gathering them, but the crop as a whole was a fair one. The yield of hops was below expectations. Corn and potato yields were light. About three-fourths of a crop of apples will be harvested.—*Edward A. Beale.*

Pennsylvania.—The mean temperature was 63.6°, or 0.4° above normal;

the highest was 95°, at Hawthorn on the 6th, and the lowest, 29°, at Center Hall on the 20th and at Dyberry on the 26th. The average precipitation was 3.39, or 0.22 above normal; the greatest monthly amount, 6.61, occurred at Oil City, and the least, 1.64, at Wilkesbarre.

September was seasonal in temperature, sunshine, and precipitation, and no damaging frosts occurred. These conditions made the month unusually favorable for the growth, maturing, and harvesting of ripened crops. At its close considerable corn had been put in shock, a large portion of the tobacco crop safely housed, and the harvesting of buckwheat well advanced. Late potatoes had made good growth, and while there were many complaints of rot, the prospect for a good yield was much improved. Peaches, plums, and pears were fairly plentiful and generally good, but apples were a failure. A large acreage was ready for fall seeding, and in some sections seeding was well advanced. Most pastures were in good condition. Considerable damage by caterpillars was reported during the month.—*T. F. Townsend.*

Porto Rico.—The mean temperature was 79.9°, or about normal; the highest was 100°, at Cayey and Coamo, and the lowest, 58°, at Adjuntas. The average precipitation was 10.77, or 3.40 above normal; the greatest monthly amount, 20.82, occurred at Adjuntas, and the least, 4.73 at Ponce.

All crops, especially the rice crop, were more or less damaged by a storm on the night of the 11th and the morning of the 12th. The high winds did considerable injury to advanced canes, banana and plantain trees, coffee, and corn, while the accompanying heavy rains overflowed the streams doing much harm to the smaller crops on the low lands and retarding field work. The storm, however, was followed by favorable weather and growing crops rapidly recovered from the effects of the storm. Much work was done during the month in preparing the land and in planting gran cultura, corn, beans, sweet potatoes, tobacco seeds, and other smaller crops. The harvesting of rice and corn and the picking of coffee have been carried on with activity during the month, and the yield seems to be satisfactory both in quality and quantity, the corn crop being particularly good. There has been an abundance of ground provisions, fruits, and vegetables, except in a very few localities where a temporary scarcity of certain articles prevailed. Pasturage has been abundant and excellent.—*E. C. Thompson.*

South Carolina.—The mean temperature was 73.1°, or 1.1° below normal; the highest was 98°, at Gillisville on the 14th, and the lowest, 46°, at Walhalla on the 19th and at Santucon on the 22d. The average precipitation was 4.66, or 0.25 above normal; the greatest monthly amount, 8.40, occurred at Cheraw, and the least, 0.30, at Bowman.

Although the temperature averaged below normal, it was, nevertheless, quite favorable. The gathering of crops was interrupted by but one period of wet weather, during which excessive rains occurred over the northeastern, central, and western portions, and damaged hay in the process of curing, and also open cotton. A severe drought prevailed in the southeastern portion, injuring truck and sea island cotton. Maturing crops were harvested in good condition, but the yields of the staple crops are disappointing.—*J. W. Bauer.*

South Dakota.—The mean temperature was 58.5°, or 4.0° below normal; the highest was 99°, at Ashcroft on the 2d, and the lowest, 17°, at Bowdle on the 17th and Rochford on the 18th. The average precipitation was 4.88, or 3.55 above normal; the greatest monthly amount, 12.41, occurred at Vermillion, and the least, 0.68, at Spearfish.

During the early part of the first decade the weather was favorable for field work and the maturing of late crops. During most of the remainder of the month rains were frequent, greatly retarding thrashing, the completion of flax harvest, corn cutting, and general field work, and causing grain and hay in stack and some grain yet in shock to sprout and mold, and also damaging considerable hay and flax in bunch. The rainfall of the month was unusually heavy over the greater portion of the east half of the State. A southerly gale prevailed over the eastern portion on the 24th, damaging a number of windmills and grain stacks; and in the late afternoon and evening of that day winds of apparently tornadic nature damaged some buildings in the western portion of Beadle County and the northern portion of Spink County. Near Turton, in the latter county, one man was killed and another injured during the storm by flying timbers. The first general heavy and killing frosts occurred on the 17th and 18th, but the damage was confined to vines, some corn fodder, and a little of the latest corn. The damage to the late corn was slight because the crop was practically beyond danger of injury by frost.—*S. W. Glenn.*

Tennessee.—The mean temperature was 68.4°, or 2.1° below normal; the highest was 96°, at Ashwood on the 7th, and the lowest, 34°, at Elizabethton, Rugby, Silverlake, Erasmus, and Waynesboro on the 19th. The average precipitation was 3.82, or 0.94 above normal; the greatest monthly amount, 8.05, occurred at Tullahoma, and the least, 1.30, at Peryear.

Fair and pleasant weather prevailed during the first decade of the month; a rainy period occurred from the 12th to the 17th, inclusive, and was followed by another ten days of fine weather; on the 28th and 29th general rains again fell. Some damage was caused by heavy, washing rains on the 13th and 14th. On the whole, the month was very favorable for farm work. A fine tobacco crop was nearly all housed and curing begun, and cotton picking progressed under very favorable conditions during most of the month. Large quantities of

fodder and various kinds of hay (such as millet, peavine, and crab grass) were saved. The planting of wheat was well advanced by the close of the month and the soil was in fine condition to receive seed.—*H. C. Bate.*

Texas.—The mean temperature was 77.4°, or about normal; the highest was 107°, at Fort Ringgold on the 10th, and the lowest, 40°, at Anna and Kerrville on the 21st. The average precipitation was 3.38, or 0.05 above normal; the greatest monthly amount, 12.25, occurred at Brazoria, and the least, trace, at Bastrop.

Hot, dry weather prevailed throughout the State at the beginning of the month, and all farming interests were being seriously affected by the drought which had continued unbroken since early in August. The situation was effectually relieved by heavy rains which occurred near the middle of the month, and all crops that were not too far gone to be benefited showed a marked improvement. During the last decade a sharp norther swept over the entire State, and temperatures almost low enough for the formation of frost occurred, except in the immediate coast districts. At the close of the month early sown wheat and oats were beginning to show above ground, and a few stands were reported. Late gardens were doing fairly well. Rice was heading and in some localities the crop was being harvested. Cotton picking was well advanced, and many fields had been picked and were abandoned to stock. Late cotton was backward, and only in a few instances was the crop worth the picking.—*Edward H. Bowie.*

Utah.—The mean temperature was 59.3°, or 1.8° below normal; the highest was 100°, at Green River on the 11th and St. George on the 15th and 18th, and the lowest, 11°, at Loa on the 24th. The average precipitation was 0.21, or 0.58 above normal; the greatest monthly amount, 1.03, occurred at Logan, while none fell at 18 stations.

The month was a favorable one for haying, harvesting, and thrashing, but unfavorable for plowing, the ground generally being too dry for that purpose.—*L. H. Murdock.*

Virginia.—The mean temperature was 67.2°, or 2.7° below normal; the highest was 95°, at Petersburg on the 15th, and the lowest, 31°, at Burkes Garden on the 21st. The average precipitation was 3.82, or 0.10 above normal; the greatest monthly amount, 6.87, occurred at Newport News, and the least, 1.38, at Alexandria.

The weather was in all respects favorable for the growth and maturity of crops. Tobacco cutting progressed rapidly during the first two weeks. Early corn matured by the middle of the month. Cutting about complete by the end of the month.—*R. F. Young.*

Washington.—The mean temperature was 55.6°, or 2.2° below normal; the highest was 98°, at Pasco on the 1st, and the lowest, 22°, at Cle Elum on the 30th. The average precipitation was 2.32, or 0.27 above normal; the greatest monthly amount, 6.60, occurred at Clearwater, and the least, 0.29, at South Ellensburg.

Generally cool, but with a warm period from the 16th to 19th. Early part of month was favorable for harvesting and thrashing. Frequent showers during latter part delayed thrashing, but put the ground in good condition for plowing and fall wheat seeding.—*G. N. Salisbury.*

West Virginia.—The mean temperature was 64.8°, or 2.7° below normal; the highest was 95°, at New Martinsville on the 6th, and the lowest, 27°, at Philippi on the 20th. The average precipitation was 3.35, or 0.40 above normal; the greatest monthly amount, 7.64, occurred at Williamson, and the least, 1.46, at Old Fields.

The weather during the month was favorable for maturing crops and for farm work. During the second week showers fell almost every day and put the ground in good condition for working, and also greatly benefited fall pastures. While frost occurred during the third week, practically no damage was done. At the close of the month corn cutting was nearly completed, with better results than anticipated; potatoes were being dug, average yield; buckwheat was about all harvested and was being thrashed, good yield; pastures were in fair condition and stock doing well; apples were wormy and mostly gathered, light yield.—*E. C. Voss.*

Wisconsin.—The mean temperature was 59.4°, or 1.1° below normal; the highest was 97°, at Barron on the 5th, and the lowest, 26°, at Osceola on the 18th and Grantsburg on the 20th. The average precipitation was 4.23, or 0.96 above normal; the greatest monthly amount, 10.04, occurred at Pepin, and the least, 1.70, at Chilton.

Weather conditions during the month very favorable for fall work and standing crops continued to improve, with very little damage from frost. Late potato crop especially benefited by favorable conditions. Rain general and well distributed. Temperature during the first decade moderately high, followed by much cooler weather, which culminated on the 18th and 20th, when the temperature fell to near the freezing point in nearly all portions of the State. General conditions very favorable.—*J. W. Schaeffer.*

Wyoming.—The mean temperature was 53.3°, or 3.0° below normal; the highest was 94°, at Alcova on the 2d, and the lowest, 12°, at Leo on the 17th and at Bitter Creek on the 25th. The average precipitation was 0.54, or 0.28 below normal; the greatest monthly amount, 2.85, occurred at Fort Yellowstone, and the least, trace, at Alcova and Casper.

Over most of the agricultural sections of the State killing frosts did not occur before the middle of the month, thus allowing crops to fully mature. Winter pasturage over nearly all sections is good and stock in best of condition for the coming winter.—*W. S. Palmer.*